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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,536

03/18/2004

Kenji Hayashi

MLPO:003

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12/07/2006

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EXAMINER

DZIERZYNSKI, EVAN P

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,536

Applicant(s)

HAYASHI ET AL.

Examiner

Evan Dzierzynski

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 15-20 are objected to because of the following informalities: "include state detector" should be changed to "incline state detector" in these claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al. (US Pat 6693380) in view of Couillaud et al. (US Pub 2002/0075691).

Toda et al. teaches a light axis adjusting apparatus for a vehicle headlamp (figure 1) comprising a light axis adjustor for adjusting a light axis of the headlamp of a vehicle 18, an operating state detector for detecting an operating state of the vehicle 108, an inclined state detector for detecting an inclined state of the vehicle relative to a road surface 102, a change amount computing unit for computing an amount of change of the inclined state during a halt of the vehicle based on results of detection of the inclined state detector when the operating state detector detects a stop state of the vehicle (column 5, line 50+), and a control device for controlling the light axis adjustor based on

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the results of detection of the inclined state detector and results of computation of the change amount computing unit (column 5, line 7+). Toda fails to disclose that the inclined state sensor is mounted in front of or forwardly of a front axle of the vehicle and fails to teach that the inclined state detector relies exclusively on the inclined state sensor to detect an inclined state of the vehicle relative to a road surface. Couillaud et al. teaches a similar device which shows an inclined state sensor 2 that is in front of a front axis of the vehicle, and that an inclined state detector 4 relies exclusively on the inclined state sensor 2 (paragraph 36) to detect an inclined state of the vehicle relative to a road surface. Couillaud also teaches that the inclined state detector transmits and receives signal waves along a direction nearly perpendicular to a longitudinal direction of the vehicle (T1, T1, Fig 1).

It would have been obvious for one of ordinary skill in the art to use the sensor of Couillaud et al. the light axis adjusting device of Toda et al. in order to reduce the number of parts and to keep the parts of the device closer to the light source, so that the parts can be more easily replaced by having them all in the same location.

As for claim 12, Toda et al. teaches a light axis adjusting apparatus for a vehicle headlamp (Fig 1), comprising a light axis adjusting means for adjusting a light axis of the headlamp of a vehicle 18, an operating state detecting means for detecting an operating state of the vehicle 108, an inclined state detection means for detecting an inclined state of the vehicle relative to a road surface 102. Toda et al. also discloses a change amount computing means for computing an amount of change of the inclined state during a halt of the vehicle based on results of detection of the inclined state

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detecting means when the operating state detecting means detects a stop state of the vehicle (column 5, line 50+), and a control means for controlling the light axis adjusting means based on the results of detection of the inclined state detecting means and results of computation of the change amount computing means (column 5, line 7+).

Toda fails to disclose that the inclined state sensor is mounted in front of or forwardly of a front axle of the vehicle. Toda fails to disclose that the inclined state sensor is mounted in front of or forwardly of a front axle of the vehicle and fails to teach that the inclined state detector relies exclusively on the inclined state sensor to detect an inclined state of the vehicle relative to a road surface. Couillaud et al. teaches a similar device which shows an inclined state sensor 2 that is in front of a front axis of the vehicle, and that an inclined state detector 4 relies exclusively on the inclined state sensor 2 (paragraph 36) to detect an inclined state of the vehicle relative to a road surface. Couillaud also teaches that the inclined state detector transmits and receives signal waves along a direction nearly perpendicular to a longitudinal direction of the vehicle (T1, T1, Fig 1). It would have been obvious for one of ordinary skill in the art to use the sensor of Couillaud et al. the light axis adjusting device of Toda et al. in order to reduce the number of parts and to keep the parts of the device closer to the light source, so that the parts can be more easily replaced by having them all in the same location.

As for claim 13, Toda et al. teaches a light axis adjusting apparatus for a vehicle headlamp (figure 1) comprising a light axis adjustor for adjusting a light axis of the headlamp of a vehicle 18, an operating state detector for detecting an operating state of

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the vehicle 108, an inclined state detector for detecting an inclined state of the vehicle relative to a road surface 102, a change amount computing unit for computing an amount of change of the inclined state during a halt of the vehicle based on results of detection of the inclined state detector when the operating state detector detects a stop state of the vehicle (column 5, line 50+), and a control device for controlling the light axis adjustor based on the results of detection of the inclined state detector and results of computation of the change amount computing unit (column 5, line 7+). Toda fails to disclose that the inclined state sensor is mounted in front of or forwardly of a front axle of the vehicle. Toda fails to disclose that the inclined state sensor is mounted in front of or forwardly of a front axle of the vehicle and fails to teach that the inclined state detector relies exclusively on the inclined state sensor to detect an inclined state of the vehicle relative to a road surface. Couillaud et al. teaches a similar device which shows an inclined state sensor 2 that is in front of a front axis of the vehicle, and that an inclined state detector 4 relies exclusively on the inclined state sensor 2 (paragraph 36) to detect an inclined state of the vehicle relative to a road surface. Couillaud also teaches that the inclined state detector transmits and receives signal waves along a direction nearly perpendicular to a longitudinal direction of the vehicle (T1, T1, Fig 1).

It would have been obvious for one of ordinary skill in the art to use the sensor of Couillaud et al. with the light axis adjusting device of Toda et al. in order to reduce the number of parts and to keep the parts of the device closer to the light source, so that the parts can be more easily replaced by having them all in the same location.

In regard to claims 2-4 and 7-11, it is noted that the applicant has not separately argued these dependent claims. The rejections, therefore, remain unchanged.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al. and Couillaud as applied to claim 1 above, and further in view of Stam (US Pub 2003/0138132).

Toda et al and Couillaud teach the light axis adjusting apparatus for a vehicle headlamp as discussed above, but both fail to teach the inclination sensor as an ultrasonic sensor having a transmitter and a receiver. Stam teaches an inclination sensor as an ultrasonic sensor having a transmitter and a receiver (paragraph 0202). It would have been obvious to combine the ultrasonic sensor with transmitter and receiver of Stam with the device of Toda et al. in order to provide an alternate means of detecting the inclined state of the road surface.

As for claim 9, Toda et al., Couillaud and Stam teach the light axis adjusting apparatus for a vehicle headlamp as discussed above. Stam teaches the transmitter and receiver are a pair of ultrasonic sensors placed in a vehicle width direction (figure 1). Stam does not specifically teach a plurality of pairs of ultrasonic sensors, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to duplicate the sensor of Stam to make a plurality since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. It is also obvious to place the ultrasonic sensors in the longitudinal direction of the vehicle since the device pertains to axis adjusting headlights, which are located on the front of the vehicle.

Claims 15- 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al. (US Pat 6693380) and Couillaud et al., as applied to claims 1, 12, and 13 above, and further in view of Toda et al. (US Pat 6357898).

As for claims 15-17, Toda discloses the device as discussed above, but fails to teach that the incline state detector comprises a plurality of transmitter for transmitting the signal waves and a plurality of receives for receiving the signal waves transmitted by the transmitters. In a related device Toda et al. teaches an incline state detector that comprises a plurality of transmitters for transmitting signal waves and a plurality of receivers for receiving the signal waves transmitted by the transmitters (col 2, lines 1-23). It would have been obvious for one of ordinary skill in the art to combine the plurality of transmitters and receivers of Toda et al (US Pat 6357898) with the device of Toda et al. (US Pat 6693380) to provide an improved means of finding the tilt of the vehicle in a longitudinal direction (col 2, ln 3+, Toda US Pat 6357898).

As for claims 18 and 19, Toda discloses the device as discussed above, but fails to specifically teach that the transmitters are adapted to be disposed on one of the right or the left side of the vehicle. In a related device Toda et al. teaches transmitters that are disposed on one of the right or the left side and receivers disposed on the opposite side of the vehicle (col 1 line 63-col 2, line 23). It would have been obvious for one of ordinary skill in the art to use the placement of the sensors, as taught by Toda et al (US Pat 6357898), with the device of Toda et al. (US Pat 6693380) to provide an improved means of finding the tilt of the vehicle in a longitudinal direction (col 2, ln 3+, Toda US Pat 6357898).

As for claim 20, Toda discloses the device as discussed above, but fails to specifically teach that the transmitters are disposed on one of the right or the left side of the vehicle, and the receivers are disposed on the other of the right side or the left side of the vehicle. In a related device Toda et al. teaches transmitters that are disposed on one of the right or the left side and receivers disposed on the opposite side of the vehicle (col 1 line 63-col 2, line 23). It would have been obvious for one of ordinary skill in the art to use the placement of the sensors as taught by Toda et al (US Pat 6357898), with the device of Toda et al. (US Pat 6693380) to provide an improved means of finding the tilt of the vehicle in a longitudinal direction (col 2, ln 3+, Toda US Pat 6357898).

Response to Arguments

As for the arguments in regard to claims 1, 12, and 13, the device of Toda et al. transmits and receives signal waves in a direction in relation to a vehicle. The claims do not define which direction of the vehicle is considered to be the longitudinal direction. Therefore, Toda meets the claimed limitations by providing an inclined state detector that transmits and receives signal waves along a direction nearly perpendicular to a *longitudinal direction* of the vehicle.

Applicant's arguments with respect to independent claims 5 and 6 have been fully considered and are persuasive. The rejections of claims 5 and 6 have been withdrawn.

Allowable Subject Matter

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The applicant's arguments filed 9/28/2006 are convincing, the prior art fails to teach or disclose a cross member, with a headlight mounted above it and the inclined state sensor is mounted to the cross member.

Claims 5 and 6 are allowed.

The following is an examiner's statement of reasons for allowance: the applicant's arguments filed 9/28/2006 are convincing.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

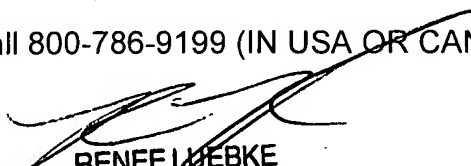
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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Evan Dzierzynski whose telephone number is (571)-272-2336. The examiner can normally be reached on Monday through Friday 7:00 am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on M-F (571)-272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


RENEE LUEBKE
PRIMARY EXAMINER